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13. ABSTRACT *(Maximum 200 words)*

The 1994 Confederation of Models is a set of DOD training simulations from each branch of the service which utilize the Aggregate Level Simulation Protocol (ALSP) to interact. The Confederation Verification , Validation, and Accreditation Master Plan (CVVAMP) consists of a several test plans and reports which include the: (a) Confederation of Models Verification , Validation, and Accreditation Master Plan (b) Technical Test Plan (c) Integrated Test Plan (d) Load Test Plan (e) Verification Test Plan.

Related reports include the: (a) Accreditation Report for the Confederation of Models in General Headquarters 94 (b) Recommendations on the Use of the Seven Member Confederation of Models.

The Technical Test Plan outlines test steps and test verification procedures for areas to include test setup, join/refresh/resign, time synchronization, filter operations, confederation save and restore, and ghosting objects.

14. SUBJECT TERMS

Confederation of Models, ALSP, RESA, Military Training Models, AWSIM, MTWS, CBS, JECEWSI, TACSIM, CSSTSS, Simulation

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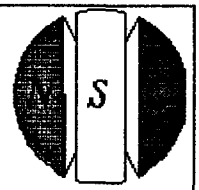

Confederation 1994

Technical Test Plan

Enclosure 1 To

Confederation of Models
Verification, Validation
and Accreditation

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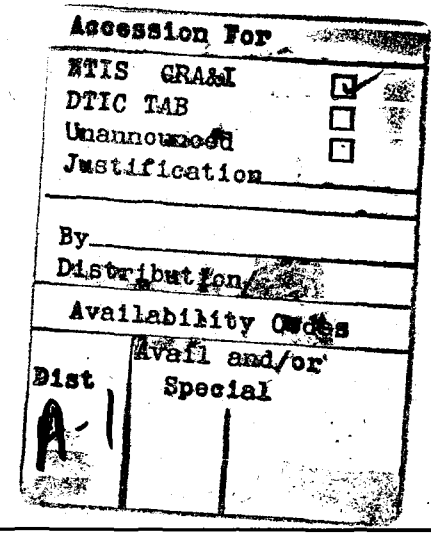
CONQUERING FRONTIERS

TEST STEPS	TEST VERIFICATION	TEST RESULTS
0. Test Setup a. Load and initialize test scenarios in all actors. Load ALSP software.	a. All actors initialized and ready to start. b. ALSP Broadcast Emulator(s) and ALSP Commom Modules initialized and ready to start.	Record Site: _____ Date: _____ ALSP Confederation No. _____ Actor 1 Version No. _____ ALSP Actor Name _____ ALSP Node Name _____ Actor 2 Version No. _____ ALSP Actor Name _____ ALSP Node Name _____ Actor 3 Version No. _____ ALSP Actor Name _____ ALSP Node Name _____ Actor 4 Version No. _____ ALSP Actor Name _____ ALSP Node Name _____ Actor 5 Version No. _____ ALSP Actor Name _____ ALSP Node Name _____ Actor 6 Version No. _____ ALSP Actor Name _____ ALSP Node Name _____ Actor 7 Version No. _____ ALSP Actor Name _____ ALSP Node Name _____

TEST STEPS	TEST VERIFICATION	TEST RESULTS
1. Join/Refresh/Resign		
a. Start ABE	a. ABE is running.	Actor Reg. Con. Lookahead
b. Start each actor's ACM.	b. All ACMs in PREJOIN condition. Record each actor's join status.	CBS ___ ___ ___
c. Join each actor to the confederation.	c. • Each actor's ACM verifies joining. • Time not advancing.	AWSIM ___ ___ ___ RESA ___ ___ ___
d. Set actor ratio to 1:1 (CSSTSS always runs as fast as it can).	d. Time advances in all simulators at 1:1 rate.	JECEWSI ___ ___ ___
e. Display each actor's filter hierarchy.	e. Verify that filter hierarchy is correct and that update set is union of create and interest set if not defined by actor.	MTWS ___ ___ ___ CSSTSS ___ ___ ___
f. Create one or more objects in each actor which should be ghosted in the other actors. (Refer to the information below)	f. Actors ghost the appropriate objects created by other actors.	TAT ___ ___ ___

Actor	Create Class	Ghosted By
CBS	HIMAD	AWSIM, CSSTSS, MTWS, JECEWSI
	ALLRAD	AWSIM, CSSTSS, MTWS, JECEWSI
	RADAR	AWSIM, CSSTSS, MTWS, JECEWSI
	SHORAD	CSSTSS, MTWS, JECEWSI
	COMBAT	CSSTSS, MTWS, JECEWSI
	HELICOPTER	CSSTSS, (AWSIM, RESA, MTWS, TAT)
AWSIM	FIXEDWING	RESA, CBS, MTWS, TAT
	HELICOPTER	RESA, MTWS, TAT, (CSSTSS)
	CRUISE_MISSILE	RESA
	TBM	RESA
RESA	FIXEDWING	AWSIM, CBS, MTWS, TAT
	HELICOPTER	AWSIM, MTWS, TAT, (CSSTSS)
	CRUISE_MISSILE	AWSIM
	TBM	AWSIM
	SEA	AWSIM, MTWS (Ships only)
	BASE	AWSIM
CSSTSS	SUPPORT	CBS

TEST STEPS	TEST VERIFICATION	TEST RESULTS
f. For each actor: (1). Send REFRESH_REQUESTs from the ACM for all objects, by class. (2). RESIGN the actor at its control station and REMOVE (i.e. DELETE) objects from confederation. (3). JOIN the actor at its control station.	f. (1). • All required attributes should appear in the resulting UPDATE message from the actor. (2). • Confederation time continues to advance. • ACMs display actor resignation. • Ghosted objects are cleared from the resigned actor's data base. • Ghosted objects, owned by the resigned actor, are cleared in the other actor's data bases. (3). • ACMs indicate actor has joined.	



TEST STEPS	TEST VERIFICATION	TEST RESULTS
2. Time Synchronization a. With all actors JOINED, set the game rate for all actors to be 1:1 (60 seconds per game cycle). b. Create a mobile object in all actors that have that capability. c. For each time-regulating actor individually : (1). Set individual actor's game rate to 2:1. (30 seconds per game cycle). (2). Set all other actor's game rates to 4:1. (15 seconds per game cycle). (3). Place actor in PAUSE. Place actor in GO (Game Rate = 2:1). (4). Set individual actor's game rate to 1:1 and turn that actor's ACM to TIME REGULATION OFF. Other actors remain at 4:1. (5). Turn actor's ACM to TIME REGULATION ON. Set individual actor's game rate to 2:1.	a. • Time continues to advance in all actors at about real time. • Game time in each actor advances at approximately the same time. b. Update message for objects sent at appropriate intervals. c. (1). • All actors continue to advance in near real time. (2). • All actors advance at 2:1. • All actor game times remain equal. (3). • Time ceases to advance for all actors when a single actor is in PAUSE. • Time advances at about 2:1 when all actors are in GO. (4). • Non-regulating actor lags behind confederation time. • Since JECEWSI's time is still linked to AWSIM, it will not fall behind when running 1:1. • Ghosted objects in regulating actors remain in positional correspondence. • Ghosted objects in non-regulating actor fall behind parent positions. (5). • Confederation time ceases to advance until all actor's game times are equal and then time advances at 2:1.	**All Actors** **Results** CBS AWSIM RESA JECEWSI MTWS CSSTSS TAT **Regulating Actors** **Results** CBS AWSIM RESA JECEWSI MTWS CSSTSS

TEST STEPS	TEST VERIFICATION	TEST RESULTS
d. Set all actor's game rates to 1:1.	d. Confederation game time advances in about real time.	**Constrained Actors** **Results**
e. For each time-constrained actor individually :	e.	CBS
(1). Set individual actor's game rate to fastest possible for scenario.	(1). • All actors continue to advance in near real time.	AWSIM
(2). Reset individual actor's game rate to 1:1.	(2). • All actors continue to advance in near real time.	RESA
(3). Set individual actor's game rate to 2:1 and turn that actor's ACM to TIME CONSTRAINED OFF.	(3). • Unconstrained actor's time advances ahead of confederation. • All moving objects of constrained actors remain in positional correspondence in unconstrained actor. • All moving objects of unconstrained actor fall behind position of object in ghosting actors.	JECEWSI MTWS
(4). Turn individual actor's ACM to TIME CONSTRAINED ON and set its game rate to 1:1.	(4). • Individual actor's time ceases to advance until confederation time catches up to it. • Confederation game time advances in about real time.	CSSTSS
(5). Set all actor's game rates to 1:1.	(5). • Confederation game time advances in about real time.	TAT
		NOTES:

TEST STEPS	TEST VERIFICATION	TEST RESULTS
f. Set all actor's game rates to 1:1.	f. Confederation game time advances in about real time.	
g. For each non-regulating actor individually :	g.	**Non-regulating Actors Results**
(1). Place actor in PAUSE. Place actor in GO at rate of 4:1 until it catches up to the rest of the confederation.	(1). • All other actors continue to advance at 1:1. • Individual actor's game time lags behind while paused. • Ghosted objects in regulating actors remain in positional correspondence. • Ghosted objects in non-regulating actor fall behind parent positions.	TAT NOTES:
h. For each unconstrained actor individually :	h.	
(1). Set individual actor's game rate to 2:1.	(1). • Unconstrained actor's time advances ahead of confederation. • All moving objects of constrained actors remain in positional correspondence in unconstrained actor. • All moving objects of unconstrained actor fall behind position of object in ghosting actors.	**Unconstrained Actors Results** - None in 1994 Confederation -

TEST STEPS	TEST VERIFICATION	TEST RESULTS
3. Filter Operations		
a. With all actors joined, change the filters in each actor to disallow one class of object they are capable of ghosting from another actor (e.g. AIR.FIXEDWING). Create objects in each actor of the type you have disallowed in the actor's ACMs.	a. Objects created in an actor are visible in the actor but are not ghosted by other actors who have not allowed the object class in their filters.	
b. Change the actor ACM filters to allow the type of objects you disallowed above.	b. Objects are now ghosted by the actors who do not own them.	
c. Establish a generalized playbox (in all actors that have geographic filter settings) as shown below:	c. Record Geographic filter settings.	Actor Latitude Longitude _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
d. Create mobile objects in each actor and have them move across the playbox boundaries established above.		
e. For each actor, establish at least one category of interaction message to DISALLOW. Cause interaction messages of that category to be broadcast.	d. • Objects created by an actor remain visible regardless of ACM filter settings and position. • Objects ghosted by an actor disappear when the object leaves the filter box and reappear when the object re-enters the box. e. DISALLOW category of interaction messages not received by actor.	

TEST STEPS	TEST VERIFICATION	TEST RESULTS
4. Confederation Save / Restore		
a. With all actors joined and running, at least one object ghosted from each actor to another, and operating in time synchronization at 60-second game rates, schedule a confederation save for a few minutes in the future.	a. • Successful save taken by each actor at the scheduled time. • Check each actor's ACM and ensure that: (1) The Save Time and Label are the same for each ACM. (2) A Start_Save message arrived for each actor. (3) Time continues to advance following completion of save.	
b. Resign each actor.	b. Each actor resigns and ACMs are in an initialized state	
c. Restore each actor from the confederation save.	c. Confederation restored at save point	
d. Set game ratios to 1:1 and GO.	d. Confederation advances at real time.	
5. Crash		
a. With all actors joined, at least one object ghosted from each actor to another, and operating in time synchronization at any rate, crash each actor individually.	a. • Confederation time ceases to advance. • Ghosted objects from crashed actor remain	
b. Stop the "CRASHED" actor's ACM and delete "CRASHED" actor's objects using the zombie killer.	b. • Confederation game time advances. • Objects owned by the "CRASHED" actor and ghosted in other actors disappear.	
c. Restart "CRASHED" actor and REJOIN.	c. • Confederation time ceases to advance until matched by the "CRASHED" actor's time. • Objects created by the "CRASHED" actor reappear as ghosts in other actors.	
d. Repeat steps a, b and c for each actor.		

TEST STEPS	TEST VERIFICATION	TEST RESULTS
6. Ghosting Objects - AIR.FIXEDWING With all actors joined, and ACM filters set to allow all appropriate object classes: a. For each actor that owns fixed wing aircraft, create at least one BLUE, one RED, and one NEUTRAL flight of at least two aircraft that may be ghosted by another actor. b. Place 1 or more fixed wing objects at speed 0 in controlling actor. Place object at speed 100. c. Place 1 or more fixed wing objects on course 90. d. For 1 or more fixed wing objects change the mission to another allowed mission. e. Cause the status of one object to become "ORBIT". f. In controlling actor, split off an aircraft from a flight. g. Launch a flight with the same call sign from all possible actors . h. Land all AIR.FIXEDWING objects.	a. Objects appear on each actor's geographic display and data tables. Ensure the following: • Number of objects in groups correspond. • Sides of objects correspond (BLUE/RED/NEUTRAL). • Registration and update message are observed on wargame terminals. • Call signs correspond b. Ghost objects in each actor are at the same speed and course. c. Ghost objects in each actor are on the same course as that assigned by the owning actor. d. Ghost object's mission changes to correspond with mission assigned by owning actor. e. Ghost object continues to be observed. f. • New ghost flight is created. • Size of old and new ghost flights correspond to size in controlling actor. g. Ghost flights are assigned different call signs. h. Ghost flights are deleted from ghosting actors.	**Results By Ghosting Actors:** CBS: AWSIM: RESA: MTWS: TAT:

TEST STEPS	TEST VERIFICATION	TEST RESULTS
Ghosting Objects - Airlift Missions a. For each actor that may fly helicopters on airlift missions, create at least one BLUE, one RED, and one NEUTRAL flight of at least two helicopters that may be ghosted by another actor.	a. Objects appear on each actor's geographic display and data tables. Ensure the following: • Number of objects in groups correspond. • Sides of objects correspond (BLUE/RED/NEUTRAL). • Registration and update message are observed on wargame terminals.	**Results By Ghosting Actors:** CSSTSS: AWSIM: RESA: MTWS:
Ghosting Objects - Ships a. For each actor that owns objects of class SEA, create or relocate at least one BLUE, one RED, and one NEUTRAL object of each category to be ghosted in another actor. b. Place 1 or more sea objects at speed 0 in controlling actor. Place object at speed 10. c. Place 1 or more sea objects on course 90. d. In the controlling actor, sink at least one ship that is being ghosted.	a. Objects appear on each actor's geographic display. Ensure the following: • Sides of objects correspond (BLUE/RED/NEUTRAL). • Registration and update message are observed on wargame terminals. b Ghost objects in each actor are at the same speed and course. c. Ghost objects in each actor are on the same course as that assigned by the owning actor. d. Ghost ship is deleted.	**Results By Ghosting Actors:** AWSIM: MTWS:

TEST STEPS	TEST VERIFICATION	TEST RESULTS
Ghosting Objects - Bases a. For each actor that owns objects of class GROUND.BASE, create or relocate at least one BLUE, one RED, and one NEUTRAL base.	a. Objects from each controlling actor are observed in ghosting actor at same location. Ensure the following: • Sides of bases correspond (BLUE/RED/NEUTRAL). • Registration and update message are observed on wargame terminals.	**Results By Ghosting Actors:** AWSIM:
Ghosting Objects - HIMAD/ALLRAD/RADAR a. For each actor that owns objects of class .HIMAD, .ALLRAD, and/or .RADAR, create or relocate at least one BLUE and RED HIMAD, ALLRAD, and/or RADAR in each actor that may be ghosted by another actor. b. Place 1 or more ground objects at speed 0 in controlling actor. Place object at speed 10. c. Place 1 or more ground objects on heading 90. d. In controlling actor, split one object into two. e. In controlling actor, merge two objects into one.	a. Objects from each controlling actor are observed in ghosting actor at same location. Ensure the following: • Sides of objects correspond (BLUE/RED). • Registration and update message are observed on wargame terminals. • CBS_STATUS corresponds b Ghost objects in each actor are at the same speed and course. c. Ghost objects in each actor are on the same course as that assigned by the owning actor. d. Two new ghost objects are created and the old ghost object is deleted. e. Ghosted objects merge into a single new object.	**Results By Ghosting Actors:** AWSIM: CSSTSS: MTWS: JECEWSI:

TEST STEPS	TEST VERIFICATION	TEST RESULTS
Ghosting Objects - TBMs/Cruise Missiles a. For each actor that owns TBMs or cruise missiles, launch at least one BLUE and one RED object that may be ghosted by another actor.	a. Objects from each controlling actor are observed in ghosting actor at same location. Ensure the following: • Sides correspond (BLUE/RED). • Registration and update message are observed on wargame terminals. • Course, speed, altitude, position and size (1) correspond.	**Results By Ghosting Actors:** AWSIM: RESA:
Ghosting Objects - SHORAD/Combat/Support Units a. For each actor that owns SHORAD, Ground Combat or Ground Support units, create or relocate at least one BLUE and one RED unit in each actor that may be ghosted by another actor. b. For each actor that owns objects of class GROUND.MANEUVER.COMBAT, in the controlling actor, split one object into two. c. In controlling actor, merge two combat units into one.	a. Objects from each controlling actor are observed in ghosting actor at same location. Ensure the following: • Sides of objects correspond (BLUE/RED). • All STATUS attribute values correspond. • Registration and update message are observed on wargame terminals. b. Two new ghost objects are created and the old ghost object is deleted. c. Ghosted objects merge into a single new object.	**Results By Ghosting Actors:** CBS: CSSTSS: MTWS: JECEWSI: